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Emotional aftereffects of stereotype suppression.

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EMOTIONAL AFTEREFFECTS OF STEREOTYPE SUPPRESSION

A Dissertation Presented

by

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ABSTRACT

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Two studies established that there are previously unexamined negative consequences of stereotype suppression beyond the traditional stereotype rebound effect. It is suggested that stereotype suppression has more in common with the literature on the suppression of emotionally arousing thoughts than the general thought suppression literature. Suppressing emotionally arousing thoughts often leads to emotional aftereffects (i.e. emotional rebound), but limited cognitive rebound. Both studies established the presence of emotional aftereffects following stereotype suppression using both direct and indirect measures of emotion. In addition, Study 1 found reduced stereotype activation following suppression relative to the control condition, whereas Study 2 attempted to determine whether these emotional aftereffects influenced the desire for intergroup contact. Future research involving people's attempts to correct for emotional aftereffects is suggested.

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CHAPTER 1

INTRODUCTION

In everyday life, people often attempt to rid themselves of their unwanted thoughts by trying not to think of them. From a person working on a deadline to a person getting over a breakup, pesky thoughts often jump into our consciousness at the least convenient times. The common wisdom is to try to push these thoughts out of our minds so that we can better focus on the tasks at hand. Sometimes these attempts are successful, while many times the unwanted thought continues to return.

Society often encourages us to control unwanted thoughts in order to smooth social interactions. Suppressing unwanted thoughts can often come into play when interacting with a member of a stereotyped group. We are expected to treat this person equally and not make judgments about him or her based upon the stereotype. In order to do this, we often avoid thinking of the person in a stereotypic way. However, just as other unwanted thoughts will continue to pop into one's mind despite our best efforts, so can stereotypes. While stereotypes can sometimes be controlled, there may be negative consequences to this form of control, which will be explored in this paper.

Recent research indicates that suppression can be an effective strategy for controlling stereotypes and produces limited negative consequences (Monteith, Sherman, & Devine, 1998; Monteith, Spicer, & Tooman, 1998; Wyer, Sherman, & Stroessner, 2000). These findings are at odds with the general consensus of the thought suppression literature, which suggests that suppression is ineffective and produces paradoxical effects. In most thought suppression studies, people are unsuccessful when they attempt to suppress a thought and there is an ironic increase in the frequency of the thought, labeled

a cognitive rebound effect (e.g. Wegner, Schneider, Carter, & White, 1987; Wenzlaff & Wegner, 2000). Initial stereotype suppression research also showed an increase in stereotyping following the act of suppression (Macrae, Bodenhausen, Milne, & Jetten, 1994). However, the lack of cognitive rebound in the recent stereotype suppression findings suggests that the general thought suppression literature is insufficient for explaining stereotype suppression. This paper accounts for these discrepancies and proposes other currently unmeasured negative consequences of stereotype suppression that may affect judgment and behavior.

While the majority of thought suppression studies demonstrate the rebound effect, certain suppression targets are less likely to show rebound, such as emotionally arousing and spontaneously suppressed thoughts (i.e. those that are against social norms or are highly practiced). For example, stereotypic thoughts about groups or individuals may elicit strong emotional responses (e.g. Fiske, Cuddy, Glick, & Xu, 2002; Mackie, Devos, & Smith, 2000; Neuberg & Cottrell, 2002; Phelps et al., 2000; Vanman, Paul, Ito, & Miller; 1997) and may often be spontaneously suppressed due to social norms favoring egalitarianism (e.g. Monteith, Sherman et al., 1998). For this reason, the stereotype suppression literature would benefit from being informed by the literature that specifically deals with emotionally arousing and spontaneously suppressed thoughts rather than the general thought suppression literature.

When considering the literature on emotionally arousing and spontaneously suppressed thoughts, there is often evidence for emotional aftereffects of suppression despite limited cognitive rebound (e.g. Koster, Rassin, Crombez, & Naring, 2003; Wenzlaff & Wegner, 2000). If stereotype suppression is comparable to the literature on

emotionally arousing and spontaneously suppressed thoughts and also exhibits emotional aftereffects, there could be several important implications that have not been explored in the stereotype suppression literature. First, these effects would suggest that there are negative consequences to suppressing stereotypes, even when no cognitive rebound is found. More importantly, to the extent that certain emotional states are known to increase the use of stereotypes and decrease the desire for intergroup contact, these emotional aftereffects may have an adverse impact on subsequent judgments and behavior (e.g. Bodenhausen, Sheppard, & Kramer, 1994; DeSteno, Dasgupta, Bartlett, & Cajdric, 2004; Dovidio, Esses, Beach, & Gaertner, 2002; Wilder & Simon, 1996). Therefore, while people might think that they are controlling stereotyping via suppression, they may actually be increasing the likelihood of negative judgments and behaviors due to these emotional aftereffects. These predictions were explored in the current studies. Study 1 investigated the presence of emotional aftereffects following stereotype suppression. Study 2 focused on the negative consequences of these emotional aftereffects for intergroup contact.

CHAPTER 2

THOUGHT SUPPRESSION

Thought suppression simultaneously activates two systems: an intentional operating process and an ironic process (Wegner, 1994; Wenzlaff & Wegner, 2000). The intentional operating process attempts to achieve suppression by searching out distracter thoughts while the ironic process monitors the success of this goal by detecting the presence of the to-be-suppressed thought. If the ironic process detects the presence of a thought that should have been suppressed, the operating process will restart its distraction attempts. However, by the ironic system's workings it unintentionally produces the failure for which it searches. The system is ironic because the goal is to suppress the target thought, but the act of continually searching for the unwanted thought primes it, leading it to become increasingly accessible in one's mind. The process of suppression often leads to a rebound effect, where following suppression, the target thought is reported at a higher frequency than if the thought had been originally focused upon (Wegner, 1994; Wenzlaff & Wegner, 2000). In other words, those who are attempting not to think about the target thought report greater target thought activation than those who are trying to think about it.

The first empirical evidence for the rebound effect was demonstrated by asking participants to suppress or express thoughts of a white bear (Wegner et al., 1987). Participants monitored their thoughts and rang a bell if they thought of a white bear. After five minutes, the conditions were reversed so that those who had initially suppressed their white bear thoughts were allowed to express them whereas those who had initially expressed their white bear thoughts were told to suppress them. Overall,

regardless of order, participants found it difficult to suppress these thoughts and reported a greater number of white bear thoughts under the suppression condition in comparison to the expression condition. Importantly, however, a rebound effect was found whereby participants who had initially suppressed their white bear thoughts reported a greater number of white bear thoughts when they subsequently expressed them when compared to the expression period of those who had initially expressed their thoughts and then suppressed them. This landmark study has inspired research in many domains, including attribution (Yzerbyt, Corneille, Dumont, & Hahn, 2001), defensive projection (Newman, Duff, & Baumeister, 1997), impression formation (Newman, Duff, Hedberg, & Blitstein, 1996), psychopathology (Abramowitz, Tolin, & Street, 2001), and stereotyping (for reviews see Bodenhausen & Macrae, 1998; Monteith, Sherman et al., 1998).

CHAPTER 3

STEREOTYPE SUPPRESSION

Stereotype suppression is a natural extension of the suppression literature because of its real world applicability in people's attempts to avoid using stereotypes when they evaluate individual members of particular social groups. Stereotype suppression has typically been investigated using a "day in the life" paradigm, in which participants are shown a picture of a target from a stereotyped group (e.g. a skinhead) and asked to spend five minutes writing about a typical day in the target's life (e.g. Macrae et al., 1994; Monteith, Spicer et al., 1998). Participants are either told that they should try to avoid thinking of the target in a stereotyped way while writing the passage or are given no special instructions (control). They are then presented with a second target person from the same stereotyped group (e.g. another skinhead) and asked to repeat the writing task without any instructions to suppress their stereotypes.

Using the day in the life paradigm, Macrae et al. (1994) first extended the thought suppression literature to the stereotyping domain utilizing skinheads as the stereotyped target. The suppression instructions were effective in reducing stereotyping during exposure to the first target. That is, participants who first suppressed their stereotypes wrote passages that were less stereotypic than those in the control condition. However, this pattern reversed for the second writing task. That is, those who had initially suppressed their stereotypes wrote second passages that contained more stereotypical content than did those in the control condition, illustrating a rebound effect. The rebound effect was also found using other measures, including social distance between the

participant and the stereotyped target, as well as increased accessibility of stereotype-relevant words (Macrae et al., 1994).

Recent research has focused on qualifying the conditions under which stereotype suppression will occur. These results suggest that internal suppression motivation (Gordijn, Hindriks, Koomen, Dijksterhuis, & Van Knippenberg, 2004) and the type of stereotyped target (Monteith, Sherman et al., 1998) play a significant role. Those who are self-motivated to suppress their stereotypes do not show the rebound effect (Gordijn et al., 2004), which suggests that some individuals may be able to engage in stereotype suppression without experiencing rebound. In terms of the importance of the type of stereotyped target, most previous research utilized targets for which there were no strong social norms against stereotyping (e.g. skinheads, elderly people). However, when more socially sensitive stereotypes are used (e.g. Blacks, gay men), the rebound effect is not found (Monteith, Sherman et al., 1998; Monteith, Spicer et al., 1998; Wyer et al., 2000). These recent findings will be discussed at greater length later in the paper, but they suggest that there is variability in the stereotype suppression literature that is currently not accounted for by the "white bear study" that first documented cognitive rebound (Wegner et al., 1987).

CHAPTER 4

DIFFERENCES BETWEEN WHITE BEARS AND STEREOTYPES

Both the skinhead study (Macrae et al., 1994) and the white bear study (Wegner et al., 1987) found evidence of cognitive rebound; however, there are several differences between white bears and stereotypes of disadvantaged groups as targets of suppression that may account for the recent lack of cognitive rebound in the stereotype suppression literature. The first difference between white bears and stereotypes is that stereotypes tend to be spontaneously suppressed given the current climate and social norms whereas thoughts about white bears are not spontaneously suppressed. The second significant difference is that stereotyped targets are emotionally arousing whereas white bears are relatively neutral. Obviously not all stereotypes are spontaneously suppressed (e.g. skinhead, criminal) or are emotionally arousing (e.g. librarian); however, this paper is intended to apply to socially sensitive stereotypes that evoke emotion and that people attempt to suppress due to social norms.

Stereotypes as Spontaneously Suppressed Thoughts

Stereotypes are often spontaneously suppressed because there are strong social norms limiting their use especially in the case of social groups that have been historically (and unfairly) disadvantaged (e.g. Monteith, Sherman et al., 1998). For example, in one study participants were either explicitly told to suppress their stereotypes, given no special instructions, or were told that the study was being conducted for an African American political group before writing a story about a day in the life of a Black target (Wyer, Sherman, & Stroessner, 1998). Stories written by participants who were told the study was for an African American group were similar to stories written by participants

who were told to suppress their stereotypes. Both groups also exhibited a rebound effect on a subsequent task, suggesting that suppression can be spontaneously induced and produces effects similar to instructed suppression. In contrast to stereotype suppression, it is unlikely that participants would feel any natural inclination to think about or suppress thoughts of a white bear because there are no social norms surrounding the expression of these thoughts (Monteith, Sherman et al., 1998).

Stereotypes as Emotionally Arousing Targets

People often experience negative emotions toward stereotyped targets (e.g. Devos, Silver, Mackie, & Smith, 2002; Dijker, 1987). Recent research has focused on the specificity of people's self-reported emotional responses to different stereotyped groups, as a function of stereotype content (Fiske et al., 2002), the threats elicited by the outgroup (Cottrell & Neuberg, 2005), and the salience of social identity and use of group-focused appraisals (Mackie et al., 2000). Emotional responses to stereotyped group members have also been found using physiological and neurological measures. White participants' facial EMG activity showed that participants responded with more negative affect to Black partners than to White partners (operationalized as higher brow and lower cheek activity) (Vanman et al., 1997). At the neurological level, participants' implicit prejudice scores were correlated with the degree of amygdala activation in response to Black versus White targets (Phelps et al., 2000). Since the amgydala is theorized to be important for emotion in the brain, these findings provide further evidence that stereotyped targets evoke emotional responses. All of this research suggests that many stereotyped targets cannot be considered neutral targets, but rather are charged with emotion.

If stereotypes can be considered more analogous to emotionally arousing and spontaneously suppressed thoughts than white bears, it is important to use the former to inform the stereotype suppression literature. Overall, there seems to be reduced cognitive rebound for emotionally arousing and spontaneously suppressed thoughts (e.g. Kelly & Kahn, 1994; Mathews & Milroy, 1994; Roemer & Borkovec, 1994; Salkovskis & Campbell, 1994; Wegner & Gold, 1995). However, there is often a delayed emotional response to spontaneously suppressing emotionally arousing thoughts (e.g. Koster et al., 2003; Wenzlaff & Wegner, 2000). The evidence regarding emotionally arousing and spontaneously suppressed thoughts is presented to provide empirical support for the current studies.

CHAPTER 5

EVIDENCE FOR REDUCED COGNITIVE REBOUND OF EMOTIONALLY AROUSING THOUGHTS

Several studies using emotionally arousing and spontaneously suppressed thoughts have failed to show the traditional cognitive rebound effect. For example, when participants were asked to suppress one of their own negative intrusive thoughts, these thoughts did not increase in the subsequent expression period, as would be predicted by the rebound effect (Salkovskis & Campbell, 1994). In another study, participants pre-selected as worriers were either asked to think about one of their worries, suppress one of their worries, or think about a nonworrisome topic for five minutes followed by a free expression period. Suppression did not lead to the rebound of these intrusive thoughts, but instead there was a slight increase in the frequency of thoughts categorized as neutral or pleasant (Mathews & Milroy, 1994). Effects opposite of the rebound effect have been observed for emotionally arousing and spontaneously suppressed thoughts. For example, in one study participants were randomly assigned to suppress or express one of their own anxious, depressing, or neutral thoughts. However, no rebound effect was observed; in fact, those who initially suppressed the target thought reported fewer target thoughts in the subsequent expression period than those who initially expressed the target thought (Roemer & Borkovec, 1994).

There is also evidence for limited cognitive rebound in recent stereotype suppression studies. In a review of the stereotype suppression literature, Monteith and her colleagues noted the importance of social norms in curbing rebound and argued that Macrae et al.'s (1994) findings are a function of the social norms concerning the

appropriateness of stereotyping skinheads (Monteith, Sherman et al., 1998). Since there are minimal social norms against stereotyping skinheads, people do not naturally attempt to control their responses and rebound occurs. However, when more socially sensitive stereotypes (e.g. Blacks, gays) are used, there is more limited evidence for the rebound effect (e.g. Monteith, Sherman et al., 1998; Monteith, Spicer et al., 1998; Wyer et al., 2000).

In one study using gay males as suppression targets, limited cognitive rebound was found. When participants completed the day in the life task about two gay couples and were asked to suppress their stereotypes, no rebound effect was observed for either low or high prejudice participants in the degree of stereotypicality of their second day in the life passages (Monteith, Spicer et al., 1998). This finding showed there were no differences between the two groups in terms of stereotype application (i.e. use of the gay stereotype). Interestingly, in a subsequent study using a different dependent variable, low and high prejudice participants differed in their level of stereotype activation (i.e. how accessible the stereotype was in participants' minds). For participants who were instructed to suppress their stereotypes, those who were high in prejudice showed greater stereotype activation by recalling more gay stereotype-relevant words than those who were low in prejudice (Monteith, Spicer et al., 1998). This finding suggests that high prejudice participants' stereotypes were activated in the first study, but they did not apply them. These studies provide evidence for the strong role of social norms in stereotype suppression.

Stereotype suppression does not lead to rebound if a person has adequate motivation and ability to prevent it. In one study, participants wrote about a day in the

life of an Asian American or Black target under suppression or control conditions (Wyer et al., 2000). Participants then read a story about a person in which half of his behaviors were consistent with the previously activated stereotype and half were inconsistent. The race of the second target was unspecified for half of the participants and specified for the other half. Rebound, as evidenced by higher stereotypicality ratings of the second target, was only shown when the race of the target was unspecified. This finding implies that the simple identification of race is sufficient to cue participants about the social norms regarding stereotype usage and thereby limit the rebound effects.

Overall, the lack of cognitive rebound in the recent stereotype suppression research has been interpreted optimistically that suppression may be a more beneficial strategy for eliminating the negative consequences of stereotyping than researchers originally thought (Monteith, Sherman et al., 1998). Research suggests that stereotypes may not always be activated and when they are, they might not always be applied, and that suppression can be effective (Monteith, Sherman et al., 1998). However, there may be other consequences to suppressing stereotypes, such as the emotional aftereffects found in the literature on emotionally arousing and spontaneously suppressed thoughts, which will be discussed in the next section.

CHAPTER 6

EVIDENCE FOR EMOTIONAL AFTEREFFECTS FROM SUPPRESSING EMOTIONALLY AROUSING THOUGHTS

When there is no cognitive rebound after the suppression of emotionally arousing and spontaneously suppressed thoughts, there is often evidence for emotional aftereffects, sometimes labeled an "emotional rebound." In one study utilizing participants' own thoughts as targets of suppression, participants were asked about personal experiences with past loss and anticipated criticism or rejection in order to elicit possible depressing, anxious, or neutral targets for suppression (Roemer & Borkovec, 1994). Participants either suppressed or expressed the thought, followed by a period in which they expressed it. Those in the suppression condition reported an increase in anxiety, regardless of the type of emotional thought they tried to suppress. In addition, a marginal effect for increased feelings of depression after suppression emerged, regardless of the type of emotional thought suppressed. Thus, negative emotion of varying kinds seems to be an aftereffect of suppression.

Other studies have found evidence for both cognitive and emotional rebound effects. In a study in which participants anticipated receiving an imminent painful electrocutaneous stimulus, they were asked to suppress or not suppress their anxious thoughts (Koster et al., 2003). Participants demonstrated both cognitive and emotional aftereffects from this suppression. That is, they displayed a greater frequency of anxious thoughts after suppression, providing evidence for the traditional rebound effect. In addition, participants reported a greater level of anxiety after suppressing these anxious thoughts, providing evidence for emotional aftereffects. Since one of the factors in

predicting emotional rebound and limited cognitive rebound is practice in suppressing particular thoughts, these results are not surprising. These participants would have had no practice in dealing with this novel situation and these novel negative thoughts. Therefore, they would experience cognitive rebound because of insufficient suppression practice as well as emotional rebound because of the emotionally arousing content of the suppressed thoughts.

Research has also found evidence of both cognitive and emotional aftereffects when a longer time period is used. In a four-day longitudinal study, participants were asked to suppress a negative natural thought (Trinder & Salkovskis, 1994). Findings revealed both cognitive and emotional aftereffects as a result of this suppression. First, a standard cognitive rebound effect emerged in which participants reported more negative intrusive thoughts. In addition, emotional aftereffects occurred whereby participants reported increased discomfort throughout the day. This study provides real world evidence for possible cognitive and emotional aftereffects of suppression and suggests that while cognitive and emotional rebound do not often co-occur immediately in the laboratory, they may be related when studied over a longer time span. Future research is needed to better understand the time course and relationship of emotional and cognitive rebound.

Emotional aftereffects have not been investigated in the stereotype suppression domain. One study has measured emotional responses after suppressing prejudice, but it has multiple interpretations because of its design. Participants' emotional reactions were measured after an interracial interaction under suppression or control conditions. Whites and Blacks discussed questions that were neutral (e.g. what they like to do in their spare

time) and race-focused (e.g. feelings about the current racial situation in the U.S.) (Shelton, 2003). In order to simulate common interracial interaction goals and perceptions, Whites were either told to try not to be prejudiced in the interaction or were given no instructions whereas Blacks were either told that their partner may be prejudiced or were given no instructions. When Whites were asked to try not to be prejudiced, they experienced more anxiety than Whites who were given no instructions. Surprisingly, Blacks who interacted with these Whites liked them more than the Whites who were given no instructions. These findings suggest that for the White participants the explicit direction to suppress prejudicial thoughts was associated with negative emotion, but it led to a more positive outcome as perceived by their Black partners. These results are promising; however, they might simply reflect participants' anxiety about being perceived as prejudiced rather than an emotional aftereffect of the suppression process.

The present studies were designed to more clearly explore the emotional aftereffects of stereotype suppression. Study 1 focused on establishing the existence of emotional aftereffects. Study 2 investigated the potentially negative consequences of emotional aftereffects for subsequent behaviors.

CHAPTER 7

STUDY 1

Study 1 used the day in the life paradigm to demonstrate the presence of emotional aftereffects following stereotype suppression. Gay men were the suppression targets because past research has classified them as a target of spontaneous suppression due to social norms (e.g. Monteith, Sherman et al., 1998; Monteith, Spicer et al., 1998). As previously noted, cognitive rebound does not tend to occur after suppressing thoughts about these types of targets (e.g. Monteith, Sherman et al., 1998; Monteith, Spicer et al., 1998; Wyer et al., 2000). This prediction was tested in the current study. However, as evidenced by research in other domains, it was expected that emotional rebound would occur after stereotype suppression for these targets. That is, those under the stereotype suppression condition would report greater subsequent negative emotion than those under the control condition. It was unknown whether the negative emotion would be general (e.g. upset, distress) or specific to the gay targets (e.g. disgust), but both types of emotions were investigated.

Level of perceiver prejudice was also investigated as a possible moderator variable. People who are low in prejudice toward gay men may experience less negative emotion in the presence of stereotyped group members and subsequently experience fewer emotional aftereffects as a result of stereotype suppression. In contrast, high prejudice people may experience greater emotional aftereffects under stereotype suppression relative to control instructions. This interaction between level of prejudice and suppression instruction was explored in the current study. In order to maximize the

variability in prejudice scores toward gay men and therefore maximize the likelihood of finding emotional aftereffects, only male participants were used in this study.

CHAPTER 8

METHOD

Participants

Seventy six heterosexual male participants completed this study in exchange for course credit. In terms of ethnicity, 77.6% of the sample identified themselves as Caucasian, 13.2% Asian, 6.6% Latino, 1.3% African American, and 1.3% did not disclose their race. Participants were randomly assigned to the stereotype suppression or control condition. Fourteen participants' responses were not recorded for the stereotype activation measure due to technical difficulties.

Materials and Procedure

Participants completed a prescreening measure of prejudice toward gay men using the gay male subscale of the Attitudes toward Lesbians and Gay Men Scale (ATLG; Herek, 1984) (See Appendix A). This prescreening session was completed by over 1,000 students several weeks before the study took place. Participants were selected for low and high prejudice levels (using the lowest and highest 40% of the men's scores, respectively). Participants were not told of the connection between their prescreening responses and the study. All of the subsequent tasks were completed on a computer using MediaLab software.

Day in the Life Task

Participants were told the task was about romantic relationships and that they were randomly assigned to write about a couple (e.g. Monteith, Spicer et al., 1998). In actuality, all participants received the gay male couple as their target. Utilizing the day in the life paradigm, participants were asked to spend 5 minutes writing about a typical day

in the couple's life. Before beginning this task, participants were either asked to try to avoid thinking about the target in a stereotypic way (stereotype suppression) or given no special instructions (control) (Instructions taken from Macrae et al., 1994). Those in the control condition were simply asked to use their imagination and focus on their writing during the task (e.g. Monteith, Spicer et al., 1998).

Indirect Measure of Emotion

After completing the day in the life task, participants completed the emotional and cognitive measures in a counterbalanced order. The emotional measures tested for emotional aftereffects whereas the cognitive measure assessed cognitive rebound. Within the emotional measures, the indirect measure of emotion was always presented before the direct measure. For the indirect measure of emotion, participants were given a lexical decision task using emotion-related words (See Appendix B; disgust-related words from Charash & McKay, 2002). Participants were asked to decide whether a stimulus was a word or non-word as quickly and as accurately as possible. Non-words were generated by using real words, but changing one of the letters to create a pronounceable non-word. Past research has demonstrated that participants will respond faster to words matching their specific moods, but not the general valence (Niedenthal, Halberstadt, & Setterlund, 1997). For example, someone in an angry mood would respond faster to anger-related words, but notsad -related words. Therefore, words related to disgust and anxiety were used as the target stimuli and compared to neutral words matched for length and frequency. Participants were shown six words for each type of emotion and six matched neutral words for each emotion. In addition, there was an equal total number of non-words presented.

Direct Measure of Emotion

Following the indirect measure of emotion, participants completed direct measures of emotion (See Appendix C). This measure assessed participants' current affective state (e.g. How happy do you feel you right now?). General negative emotions were measured by the degree of upset and distress reported whereas the amount of disgust reported was the specific negative emotion measure. Participants indicated the extent to which they were experiencing each emotional reaction along a scale from 1 (not at all) to 7 (very much so).

Stereotype Activation

Participants' level of stereotype activation was measured by a word recall task of gay stereotype relevant words (e.g. feminine) (Monteith, Spicer et al., 1998) (See Appendix D). Participants were told that they would be completing a short-term memory task. They were shown a list of 10 words for 6 seconds each; some of the words were relevant to the gay stereotype and the others were neutral. Participants saw a total of nine different lists of 10 words each. After seeing the ninth list, participants were asked to recall as many of the words as they could. The proportion of stereotypic words remembered out of the total number of words remembered served as the measure of stereotype activation.

Gay Marriage Essay

Lastly, participants were asked to write an essay about their views on gay marriage to be used as a broader measure of emotional aftereffects. These essays were later coded for their emotional content. Participants were thanked and debriefed at the end of the experiment.

CHAPTER 9

RESULTS

For all of the results, 2 (low vs. high prejudice) X 2 (stereotype suppression vs. control) analyses of variance (ANOVAs) were conducted. There were no effects of presentation order of the cognitive and emotional tasks.

Manipulation Check

In order to determine if the stereotype suppression manipulation was successful, participants' day in the life stories were coded for stereotypic content on a 7 point scale (1=not at all stereotypic to 7=very stereotypic) by two coders blind to condition ($\alpha = .71$). The averaged coders' ratings were used in all subsequent analyses. There was a significant main effect of prejudice, such that high prejudice people wrote more stereotypic stories ($M = 3.72$, $SD = 1.50$) than low prejudice people ($M = 2.59$, $SD = 1.49$), $F(1, 72) = 10.65$, $p < .01$. This effect was qualified by an interaction between prejudice and suppression condition, $F(1, 72) = 3.67$, $p < .06$. High prejudice people wrote significantly more stereotypic stories in the control condition ($M = 4.18$, $SD = 1.77$) than low prejudice people ($M = 2.40$, $SD = 1.18$), $t(37) = 3.73$, $p = .001$. However, there was no difference in the stereotypic content of the stories in the suppression condition by level of prejudice, indicating that the suppression instructions were successful (Low: $M = 2.79$, $SD = 1.45$; High: $M = 3.25$, $SD = 1.56$), $t < 1$. In addition, low prejudice participants' writing passages did not vary between the suppression and control conditions, $t < 1$, nor did high prejudice participants' writing passages, $t(33) = 1.64$, $p = .11$.

Indirect Emotional Aftereffects

Error trials and outliers (less than 2% of total trials) were dropped from participants' reaction times for the lexical decision task, and a log transformation was conducted on the remaining reaction times to normalize them. Responses were calculated by subtracting the reaction time for emotional target stimuli from the reaction time for the neutral matched stimuli, whereby positive numbers indicate greater accessibility of the target emotion (Niedenthal et al., 1997). For the anxiety target stimuli, high prejudice participants responded faster to the anxiety words than the matched neutral words (M = 34.47, SD = 118.55) whereas low prejudice participants responded faster to the matched neutral words than the anxiety words (M = -23.29, SD = 118.38), indicating that high prejudice participants were experiencing more anxiety than low prejudice participants, $F(1, 71) = 4.42$, $p < .04$. However, there were no differences in response times to the anxiety words as a function of stereotype suppression condition or the interaction between prejudice and stereotype suppression, both $F < 1$. For the disgust target stimuli, there were no significantly different responses from the neutral matched stimuli (Suppression Effect: $F(1, 70) = 1.41$, $p > .23$; Prejudice Effect: $F < 1$; Interaction Effect: $F(1, 70) = 1.84$, $p > .17$).

The other indirect emotional aftereffect measure that was used was the gay marriage essay. Essays were coded for their emotional content (1= a lot of negative emotion – 7= a lot of positive emotion, $\alpha = .82$) by two coders who were blind to condition. The averaged coders' ratings were used in all subsequent analyses. Low prejudice participants expressed more positive emotion in their essays (M = 5.04, SD = 1.26) than high prejudice participants (M = 2.60, SD = 1.27), $F(1, 70) = 66.36$, $p < .001$.

However, there was no effect of suppression condition ($F(1, 70) = 1.64$, $p > .20$) or an interaction between prejudice and suppression condition for emotional content, $F < 1$.

Direct Emotional Aftereffects

Participants' general self-reported negative emotions (e.g. distress, upset) were averaged to test for broad emotional aftereffects ($\alpha = .65$). Participants in the stereotype suppression condition experienced more general negative emotional aftereffects ($M = 2.40$, $SD = 1.08$) than those in the control condition ($M = 1.91$, $SD = 1.07$), $F(1, 72) = 4.00$, $p < .05$. In addition, high prejudice participants reported greater negative emotional aftereffects ($M = 2.49$, $SD = 1.06$) than low prejudice participants ($M = 1.81$, $SD = 1.07$), $F(1, 72) = 7.66$, $p = .007$. However, there was no interaction between suppression condition and prejudice level for the general negative emotional aftereffects, $F < 1$.

When considering the specific emotional aftereffects, high prejudice participants reported marginally greater disgust ($M = 1.89$, $SD = 1.18$) than low prejudice participants ($M = 1.37$, $SD = 1.17$), $F(1, 72) = 3.73$, $p < .06$. However, participants in the suppression condition ($M = 1.82$) did not report significantly more disgust than those in the control condition ($M = 1.44$), $F(1, 72) = 1.94$, $p > .16$. In addition, there was no interaction between suppression condition and prejudice level for disgust, $F(1, 72) = 1.64$, $p > .20$.

Cognitive aftereffects

The proportion of stereotypic words remembered out of the total number of words remembered for the word recall task served as the measure of stereotype activation. Participants in the control condition remembered a greater proportion of stereotypic words ($M = 0.24$, $SD = 0.16$) than those in the suppression condition ($M = 0.13$, $SD = 0.16$), $F(1, 58) = 7.12$, $p = .01$. These results show that participants in the suppression

condition were continuing to suppress their stereotypes rather than show a rebound effect. However, a marginal interaction between prejudice and suppression condition demonstrates that this effect was specific to high prejudice participants, $F(1, 58) = 2.80$, $p = .10$. That is, low prejudice participants' recall did not differ as a function of suppression condition (Suppress: $M = 0.18$, $SD = 0.20$, Control: $M = 0.23$, $SD = 0.17$), $t < 1$. However, high prejudice participants recalled significantly fewer stereotypic words in the suppression condition ($M = 0.08$, $SD = 0.12$) than in the control condition ($M = 0.26$, $SD = 0.15$), $t(28) = 3.57$, $p = .001$. In addition, in the suppression condition, low prejudice participants ($M = 0.18$, $SD = 0.20$) recalled marginally more stereotypic words than high prejudice participants ($M = 0.08$, $SD = 0.12$), $t(27) = 1.72$, $p = .097$. There was no difference in low and high prejudice participants' recall in the control condition, $t < 1$.

CHAPTER 10

DISCUSSION

This study is the first to suggest that when cognitive rebound is not found after stereotype suppression, there may be other negative consequences. Emotional aftereffects were posited based on the literature on emotionally arousing and spontaneously suppressed thoughts. These results suggest that stereotype suppression may remain an ineffective strategy despite the recent optimistic findings of no cognitive rebound.

This study found evidence counter to the rebound effect, whereby people asked to suppress their stereotypes showed less stereotype activation than those in the control condition. This finding confirms the socially sensitive nature of the gay male stereotype, and indicates that people can show continued suppression attempts. Stereotype suppression led to general negative emotional aftereffects, but not to emotions that were specific to the target (i.e. disgust). This may have also been due to the social norms that were activated. Participants might experience negative emotion following suppression, but are wary of labeling it specifically. However, it is also possible that participants' increased distress and upset was due to the suppression instruction itself. In other words, people may have felt increased pressure to appear non-stereotypic, which led to increased general negative emotion. Future research should investigate this alternative explanation for the results.

It had been predicted that prejudice level and suppression condition might interact for the emotional aftereffects measures. In fact, participants in the suppression condition experienced emotional aftereffects regardless of prejudice level. While both low and high prejudice participants experienced emotional aftereffects in this study, this does not mean

they were experiencing them for the same reasons. Specifically, low prejudice people might have felt negative emotion about ensuring they showed their low prejudiced nature under the suppression condition. On the other hand, high prejudice people might have felt negative emotion about fitting in with social norms that became salient in the suppression condition, especially given that they do not have as much practice in doing so (Monteith, Sherman et al., 1999). These possibilities should be tested in future research.

CHAPTER 11

STUDY 2

Study 2 attempted to replicate the finding of emotional aftereffects following stereotype suppression and explore their possible negative consequences. Emotional aftereffects could lead to decreased contact and avoidance of outgroup members. If people engage in repeated suppression attempts, the negative emotional aftereffects may become associated with the stereotyped target. However, perceivers may continue to think of themselves as unbiased because of their suppression attempts and not realize these affective implications. Affect is an important predictor of willingness to engage in future contact (Dovidio et al., 2002). The negative emotions a perceiver may feel when around a target may very easily be interpreted by the perceiver as anxiety or anger surrounding the interaction. This could then impact a person's attitudes toward the target group member and therefore limit the desire for future contact, leading to avoidance behaviors.

Overall, emotional aftereffects could negatively influence intergroup relations by decreasing the amount of intergroup contact. It was expected that people who suppressed their stereotypes would experience more negative emotional aftereffects than those in the control condition, replicating the first study. A different measure of indirect emotional aftereffects was used because no indirect emotional aftereffects were found with the lexical decision task used in the first study. In addition, it was hypothesized that emotional aftereffects would mediate the relationship between stereotype suppression and desire for intergroup contact (See Figure 1).

CHAPTER 12

METHOD

Participants and Design

Sixty-five male heterosexual participants completed this study in exchange for course credit. As in Study 1, only male participants were included in this study to insure greater variability in prejudice scores. In terms of ethnicity, 80% of the sample identified themselves as Caucasian, 16.9% Asian, 1.5% Latino, and 1.5% African American. Participants were randomly assigned to the stereotype suppression or control condition. As in Study 1, participants' prejudice toward gay men was measured several weeks before the experiment during a prescreening session, and participants in the lower and upper 40% of the range of male scores were recruited to participate. Two participants did not complete the prescreening measure of prejudice and were excluded from these analyses.

Materials and Procedure

Participants completed the same day in the life task as in Study 1 under either stereotype suppression or no special instructions. Next, participants completed indirect and direct measures of emotion in counterbalanced order to test for emotional aftereffects. The direct measure of emotion was the same as in Study 1.

Indirect Measure of Emotion

For the indirect measure of emotion, participants were told that they would be completing an auditory comprehension task. Participants heard words and were asked to type them out as quickly and as accurately as possible. Embedded within these words were several homophones. These homophones had either positive or neutral meanings

(e.g. medal/metal) or negative or neutral meanings (e.g. disgust/discussed) (See Appendix E). People in negative moods are more likely to hear the negative meaning of the words than people in positive moods (Halberstadt, Niedenthal, & Kushner, 1995). In order to make this task more difficult so that participants would be less likely to think of the multiple meanings of the words, participants were also asked to remember a 9 digit number while completing the task.

Day in the Life Measure

Participants then completed a second day in the life task for a heterosexual couple. This task was included to bolster the cover story that the study was about romantic relationships and to minimize suspicion about the previous day in the life task.

Desire for Intergroup Contact Measure

After finishing the computer portion of the study, participants were asked if they would be willing to complete a survey on media exposure (See Appendix F) and be interviewed by an honors student for his pilot study. Participants were brought into another room where the honors student's belongings were next to a chair. Participants were led to believe the honors student was gay because of the saying on his mug, "Gay by nature, Proud by choice". Research assistants drew participants' attention to the mug by saying that the honors student was not there right now, but that he should be back soon because he had left his tea. Participants were asked to drag a chair in from the hallway to sit and wait to be interviewed by the honors student. In addition, participants were given a survey on media exposure to fill out while waiting to be interviewed. As part of the survey, participants were asked if they would be interested in participating in a future in-depth interview with the honors student for his final project. Participants were asked how

interested they were in participating in the future project on a 7-point scale (not at all–very interested). This question served as the measure of desire for future intergroup contact. In addition to this question, the seating distance between the participant's chair and the honors student's chair was measured to determine desire for intergroup contact. Greater distances were expected to represent less desire for intergroup contact. Following the completion of the survey, participants were probed for awareness of the hypotheses and the honors student's sexual orientation, and were subsequently debriefed.

CHAPTER 13

RESULTS

For all of the results, 2 (low vs. high prejudice) X 2 (stereotype suppression vs. control) analyses of variance (ANOVAs) were conducted. There were no effects of presentation order for the emotional measures.

Manipulation Check

The same manipulation check analyses as were described for Study 1 were used to determine if the stereotype suppression instructions led to less stereotyping in the day in the life passages by two coders blind to condition ($\alpha = .86$). The averaged coders' ratings were used in all subsequent analyses. There were no main effects of prejudice level (F (1, 59) = 2.42, $p < .13$), suppression condition ($F < 1$), or an interaction between suppression condition and prejudice level for the amount of stereotyping present in the day in the life story ($F < 1$). These findings suggest that participants wrote relatively non-stereotypic passages regardless of the instructions, ($M = 1.96$ suppression condition, $M = 2.02$ control condition).

Indirect Emotional Aftereffects

The number of negative homophones heard was summed to create an indirect measure of negative emotion. There were no main effects of prejudice level ($F(1, 59) = 2.41$, $p > .12$) or suppression condition ($F < 1$) for the number of negative homophones heard. However, there was an interaction between prejudice level and suppression condition, $F(1, 59) = 4.05$, $p < .05$, (See Figure 2). Specifically, in the suppression condition, high prejudice participants ($M = 3.90$, $SD = 1.29$) heard more negative homophones than low prejudice participants ($M = 2.87$, $SD = 0.97$), $t(31) = 2.54$, $p < .02$.

In the control condition, there was no difference between low and high prejudice participants, $t < 1$. In addition, low prejudice participants did not differ between the control and suppression conditions, $t(36) = 1.36$, $p = .18$, nor did high prejudice participants differ between the two conditions, $t(23) = 1.43$, $p = .17$. These findings indicate that high prejudice participants were experiencing negative emotional aftereffects following suppression when the emotions were measured indirectly.

Direct Emotional Aftereffects

Participants' general self-reported negative emotions (e.g. distress, upset) were averaged to test for broad emotional aftereffects ($\alpha = .69$). There were no main effects of prejudice level ($F(1, 59) = 1.44$, $p > .23$) or suppression condition ($F < 1$) for the amount of general negative emotion reported after the gay couple day in the life task. However, there was an interaction between prejudice level and suppression condition, $F(1, 59) = 5.97$, $p < .02$, (See Figure 3). Specifically, low prejudice participants reported significantly greater general negative emotion in the suppression condition ($M = 2.15$, $SD = 1.29$) than in the control condition ($M = 1.30$, $SD = 0.59$), $t(36) = 2.39$, $p = .02$. However, high prejudice participants showed no difference in their self-reported emotions between the two conditions, (suppression: $M = 1.80$, $SD = 0.82$, control: $M = 2.33$, $SD = 1.22$; $t(23) = 1.21$, $p > .23$). In addition, in the control condition, high prejudice participants reported more general negative emotion than low prejudice participants, $t(28) = 2.95$, $p < .01$. However, there was no difference between low and high prejudice participants for general negative emotion in the suppression condition, $t < 1$. These findings indicate that low prejudice participants were self-reporting emotional aftereffects following suppression whereas high prejudice participants were not.

Self-reported disgust and repulsion were averaged together to form an index of specific emotional aftereffects ($\alpha = .82$). High prejudice participants reported greater disgust and repulsion ($M = 2.10$, $SD = 1.06$) than low prejudice participants ($M = 1.30$, $SD = 1.07$), $F(1, 59) = 8.51$, $p < .01$. In addition, participants in the suppression condition ($M = 1.45$, $SD = 1.13$) reported marginally less specific negative emotion than those in the control condition, ($M = 1.95$, $SD = 1.04$), $F(1, 59) = 3.58$, $p = .07$. Finally, there was a marginal interaction between suppression condition and prejudice level for specific negative emotion, $F(1, 59) = 3.64$, $p = .07$, (See Figure 4). Specifically, in the control condition, high prejudice participants ($M = 2.60$, $SD = 1.63$) reported significantly more specific negative emotion than low prejudice participants ($M = 1.30$, $SD = 0.56$), $t(28) = 2.92$, $p < .01$. There was no difference between low and high prejudice participants' specific negative emotion in the suppression condition, $t < 1$. In addition, there was no difference in low prejudice participants' self-reported specific negative emotion between the suppression and control conditions, $t < 1$, nor was there a difference between high prejudice participants' specific negative emotion between the two conditions, $t(23) = 1.68$, $p = .11$.

Desire for Intergroup Contact

In order to determine participants' desire for future intergroup contact, their interest in taking part in a future study with the assumedly gay honors student was measured. There were no main effects of prejudice level, suppression condition, or an interaction between suppression condition and prejudice level for this question, all $Fs < 1$. In addition, there were no main effects of prejudice level ($F < 1$), suppression condition

($F(1, 53) = 1.27$, $p > .26$), or an interaction between suppression condition and prejudice level, $F < 1$, for the seating distance between the participant and the honors student.

However, only 53% of the participants reported that the honors student was gay in the debriefing. Follow-up analyses were calculated using only the participants who noticed that the honors student was gay. There was a marginal main effect of prejudice level on interest in taking part in the honors student's future study, $F(1, 26) = 3.27$, $p = .08$. Low prejudice participants ($M = 5.05$, $SD = 1.41$) were more likely to be interested in the future project than high prejudice participants ($M = 4.12$, $SD = 1.39$). There was no main effect of suppression condition or an interaction between suppression condition and prejudice level, both $Fs < 1$.

For the seating distance variable, there was a marginal main effect of prejudice level, $F(1, 26) = 3.61$, $p < .07$. High prejudice participants ($M = 48.80$ inches, $SD = 9.68$) sat farther from the honors student than low prejudice participants ($M = 41.98$ inches, $SD = 9.81$). In addition, there was a marginal main effect of suppression condition, $F(1, 26) = 3.64$, $p < .07$. Participants in the suppression condition ($M = 48.81$ inches, $SD = 9.81$) sat farther from the honors student than participants in the control condition ($M = 41.97$ inches, $SD = 9.68$). There was no interaction between suppression condition and prejudice level for seating distance, $F < 1$. These results indicated that participants in the suppression condition were less likely to desire intergroup contact than those in the control condition. However, because of the low sample size, the mediational role of emotional aftereffects in predicting desire for intergroup contact could not be tested due to low power.

CHAPTER 14

DISCUSSION

Overall, Study 2 had mixed findings in terms of emotional aftereffects. Since the manipulation check was not effective, it is unclear if some participants suppressed their stereotypes because of the experimenter's instructions and if some may have suppressed their stereotypes due to personal norms. Because the overall level of stereotypicality was relatively low in this study, it is possible that many of the participants were controlling their stereotypes on their own, regardless of the experimenter's instructions.

In this study, emotional aftereffects were contingent upon prejudice level. Low prejudice participants reported greater general negative emotion following suppression relative to participants in the control condition. However, high prejudice participants' responses did not differ as a function of suppression condition. High prejudice participants may have been attempting to control their responses in the suppression condition. As more evidence that is suggestive of controlled responding, participants in the suppression condition reported less disgust and repulsion than participants in the control condition. This finding was qualified by prejudice level, such that high prejudice participants reported significantly more specific negative emotion than low prejudice participants in the control condition. However, there was no difference between the two prejudice groups in the suppression condition, suggesting that high prejudice participants were controlling their responses.

While these attempts at control by high prejudice participants worked for explicit measures of emotion, they did not carry over for the indirect measure of emotion. High prejudice participants heard more negative homophones than low prejudice participants in

the suppression condition, indicating that they were feeling greater negativity. This finding suggests that high prejudice participants were also experiencing negative emotional aftereffects following suppression; however, they were making attempts to conceal these negative emotions by not directly reporting them.

The desire for intergroup contact was also investigated in this study by utilizing a "honors student" who was assumedly gay. Unfortunately, nearly half of the participants did not correctly report the honors student's sexual orientation. Several participants reported unease about having to classify the student without having met him. It is possible that while participants may have seen the honors student's mug, they may not have felt like they could make the proper judgment without meeting the person and thereby these participants decided to write "heterosexual" as the honors student's sexual orientation.

Analyzing the results from participants who did notice that the honors student was gay provides suggestive evidence, but is limited by the small sample size. Low prejudice participants were more interested in participating in the honors student's future research and sat closer to his chair than high prejudice participants. In addition, participants in the suppression condition sat farther away from the honors student than participants in the control condition. This decreased desire for intergroup contact in the suppression condition was not contingent upon prejudice, but this may have been due to the small cell sizes. Future research should bolster this technique so that more participants notice or are confident in saying the honors student is gay. This may require the presence of a confederate posing in person as an honors student or some other more noticeable means of indicating that the interviewer is gay.

Finally, it is important to note that another social psychology study regarding gay men was being conducted during the same semester in a nearby lab room. A high percentage of the subjects participated in both studies. Since the other study was conducted first, participants may not have arrived at the current study in a naïve state and may have been more likely to make socially appropriate responses as a result of their previous experiences.

CHAPTER 15

GENERAL DISCUSSION

Both studies suggest the presence of emotional aftereffects following stereotype suppression. Emotional aftereffects have not been investigated in the stereotype suppression literature and these studies bring a much needed affective perspective to this literature. While people who are attempting to suppress their stereotypes may successfully control their thoughts (i.e. decreased stereotype activation), there may be emotional costs of this form of suppression. The current findings suggest that there can be negative consequences to stereotype suppression even when no cognitive rebound is found.

In terms of self-reported emotion, Study 1 found that both low and high prejudice participants experienced negative emotional aftereffects following suppression. Participants in the suppression condition were more likely to report general negative emotion than participants in the control condition. However, in Study 2 emotional aftereffects were contingent upon prejudice level. Similar to Study 1, low prejudice participants reported greater general negative emotion in the suppression condition relative to the control condition. However, high prejudice participants reported no difference in general negative emotion in the two conditions. These findings indicate mixed support for general emotional aftereffects following suppression for high prejudice participants.

When specific measures of self-reported negative emotion (i.e. disgust, repulsion) were used, negative emotional aftereffects were not found. In Study 1, there were no effects of the suppression condition on disgust. In Study 2, high prejudice participants

reported greater specific negative emotion than low prejudice participants in the control condition. However, there was no difference between the two groups in the suppression condition, suggesting that the suppression instructions led high prejudice participants to control the reporting of specific negative emotions. These findings suggest that emotional aftereffects are not specific to the emotions elicited by the stereotyped target, but future research should further explore this possibility as these findings are preliminary.

When considering indirect measures of emotion, Study 1 found no effects of suppression on either of its measures (i.e. gay marriage essay and lexical decision task). In Study 2, using the homophone task, high prejudice participants showed evidence for emotional aftereffects following suppression. Specifically, high prejudice participants heard more negative homophones than low prejudice participants in the suppression condition. There was no difference between the two groups in the control condition. These findings indicate that high prejudice participants experienced negative emotional aftereffects following suppression in the second study, but had not reported them with the direct measures of emotion. The mixed evidence regarding indirect measures of emotion in the two studies also indicates the need for the development of better measures, as indirect measures of emotion are still very much in their infancy.

It is unclear why emotional aftereffects were found to be contingent upon prejudice level in the second study, but not in the first. The mean prejudice level of the high prejudice group was somewhat lower in Study 2 ($M = 6.05$) than in Study 1 ($M = 6.36$). This difference in prejudice level may also have indicated a difference in motivation to control prejudice. Specifically, if participants are motivated to control their

prejudice, they should be less likely to report prejudiced views, which should be associated with lower scores on a prejudice measure. Perhaps the high prejudice participants in Study 2 were higher in motivation to control prejudice than those in Study 1. As suggestive evidence for this point, in Study 1, high prejudice participants wrote significantly more stereotypic day in the life stories than low prejudice participants in the control condition. However, in Study 2, there was no difference between high and low prejudice participants' degree of stereotypicality for the day in the life stories in the control condition. In addition, the overall level of stereotypicality for the day in the life stories was lower in Study 2 than in Study 1.

Future research should investigate the role of motivation to control prejudice and emotional aftereffects to better understand the processes at work. There may be important differences involving participants' internal and external motivations to control their prejudice. Since the focus of the current studies was on external motivation to control prejudice (i.e. the experimenter's instructions), people who are externally motivated to control their prejudice may have been especially responsive to these instructions. A focus on invididual differences may be prove useful in sorting out who is more likely to experience emotional aftereffects following suppression.

The mediational role of emotional aftereffects in explaining the relationship between suppression and intergroup contact could not be tested in this study due to the problems with the contact measure in Study 2. For the participants who did notice the sexual orientation of the honors student, participants in the suppression condition sat farther from the honors student's chair than those in the control condition. This finding is similar to past research that finds that stereotype suppression leads to greater seating

distance from a stereotyped target (Macrae et al., 1994). However, in this study I expected that emotions would mediate this seating distance and other measures of desire for intergroup contact. Future research should utilize other measures of intergroup contact in order to better understand the implications of emotional aftereffects for subsequent behaviors.

Together, these two studies provide suggestive evidence about the benefits and costs associated with stereotype suppression. Participants in the stereotype suppression condition remembered fewer stereotypic words in the recall task in Study 1, indicating less stereotype activation compared to the control condition. These results are counter to the traditional rebound effect finding that stereotypes resurge following suppression. Other research indicates that stereotypes will not rebound when there are strong social norms against stereotyping (e.g. Monteith, Sherman et al., 1998; Monteith, Spicer et al., 1998), which would be the case for the gay couple used in these studies. Along these lines, participants reported lesser disgust and repulsion under suppression relative to the control condition in Study 2. However, these apparent benefits of suppression need to be balanced against their costs. Relative to the control condition, stereotype suppression led to greater negative emotion and greater distancing between oneself and a gay target. These emotional costs could potentially exert a negative toll on subsequent judgments and behaviors, including decreased desire for contact and increased stereotyping, as was suggested in the introduction.

Future research needs to be conducted concerning the generality versus specificity of emotional aftereffects. These studies found preliminary and suggestive evidence for general emotional aftereffects, but not for specific emotional aftereffects (i.e. emotions

that were specific to the target). These findings may have been a function of the nature of the stereotyped target. Because there are social norms against stereotyping gay men, people may have been aware that by reporting specific emotions that can be associated with prejudice toward gay men (i.e. disgust), they may have appeared prejudiced. However, reporting general negative emotion following suppression (i.e. distress, upset) should not be as indicative of prejudice. It is possible that for stereotyped targets for whom there are no strong social norms prohibiting stereotypes, people may report specific emotional aftereffects following suppression.

In addition, other indirect measures of emotional aftereffects may be needed in order to tap specific emotions. Study 1 attempted to use a lexical decision task for this purpose, but was unsuccessful. Future research will utilize a dot probe task to determine if participants are experiencing greater disgust and anxiety following suppression (Egloff, Wilhelm, Neubauer, Mauss, & Gross, 2002; MacLeod, Mathews, & Tata, 1986). In this task, emotionally valenced and neutral words are presented simultaneously in different areas of a computer screen. Participants are then shown a dot in one of the areas where a word previously appeared and are asked to respond as quickly as possible to indicate which side of the screen the dot is located. If participants have a speeded reaction time to an area, this indicates that their attention had been drawn to one of the words, suggesting that their feelings match the word they were attending to more. This method may be another useful way to indirectly measure participants' emotional responses.

The current research utilized only male participants responding to gay stereotyped targets. I am presently conducted additional research attempting to determine whether women also experience emotional aftereffects following suppression of their stereotypes

of a gay couple. Future research is needed to determine how emotional aftereffects may generalize to other stereotyped targets, and if there are other distinctions beyond whether the stereotype has associated social norms against it or not.

Finally, the mechanism behind emotional aftereffects is currently unclear. There are several possibilities. First, emotional aftereffects may be a reflection of the difficulty of the act of stereotype suppression. Suppressing stereotypes may be burdensome, depleting a person's self-regulatory resources, and thereby producing negative affect. After people have exerted self-regulation, they are less able to self-regulate again in the immediate future because they have exhausted their limited self-control resources, also known as ego depletion (for a review see Muraven & Baumeister, 2000). Because stereotype suppression is a form of self-regulation, the emotional aftereffects found in the present studies may be a form of fatigue from exerting self-control. Using a second self-regulatory task in a future experiment would help address this possibility. A second explanation may be that emotional aftereffects reflect the rebound of a particular emotion that was suppressed. For example, greater disgust would be predicted following the suppression of the gay stereotype. This second explanation does not seem to be supported by the evidence collected in the current studies. However, it is too premature to rule out this explanation at this point because of the social norms explanation that was previously discussed. People may be experiencing greater disgust following suppression, but not label it as disgust because of concern over social norms. Another explanation may be that participants are responding to the stereotype suppression instructions with reactance (Brehm, 1966). By telling participants to suppress their stereotypes, they may respond negatively to this threat to their freedom of choice, and therefore feel negative

emotion as a result. Finally, another explanation would be that people are simply reacting to the suppression instructions with negative emotion. The suppression instructions themselves (and not the act of suppression) may lead people to be distressed and worried about appearing non-stereotypic. Future research is necessary to empirically differentiate these explanations.

In addition to the theoretical implications of these studies, there are also practical implications. As was discussed in the introduction, there is a tacit assumption that people should exert self-control and suppress their stereotypes to achieve beneficial consequences. However, the current studies suggest that there may be negative consequences for stereotype suppression. In the real world, for programs that aim to decrease stereotyping, suppression may not be the best strategy because of the potential for negative emotional aftereffects. Other prejudice reduction techniques may need to be used instead (e.g. focusing on diversity) in order to avoid emotional aftereffects. An alternative method would be to make people aware of the possibility of emotional aftereffects so that they might potentially correct for them. Of course, empirical research should investigate this claim to determine its efficacy first.

Because this is the first paper to investigate the presence of emotional aftereffects, there are many unanswered questions that await future exploration. Future research should replicate these effects and focus on their generalizability, as well as determine the mechanism responsible for emotional aftereffects. It will also be important to determine whether there are different mechanisms at work depending on the specific stereotyped group, the type of emotion the group evokes, and individual differences in motivation to

control prejudice. All of these research questions will help encourage an affective perspective in the stereotype suppression domain, which is currently lacking.

Figure 1: Predicted Relationship Between Emotional Aftereffects Mediating the Relationship Between Stereotype Suppression and Desire for Intergroup Contact

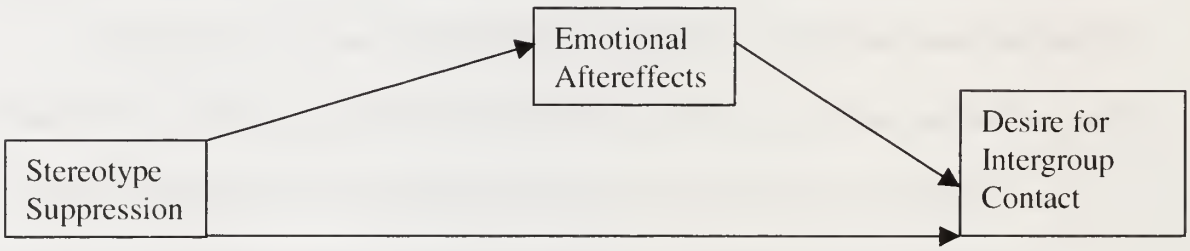


Figure 2: Effect of Suppression Instructions and Prejudice Level on Indirect Negative Emotion (Number of Negative Homophones Heard)

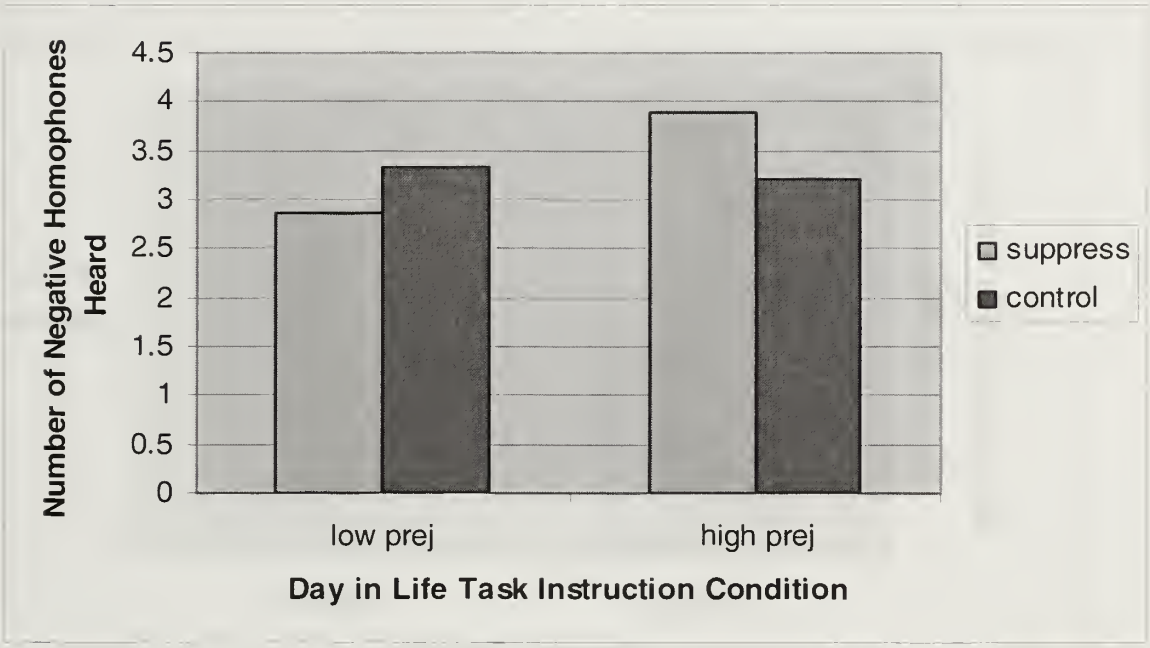


Figure 3: Effect of Suppression Instructions and Prejudice Level on Self-reported General Negative Emotion

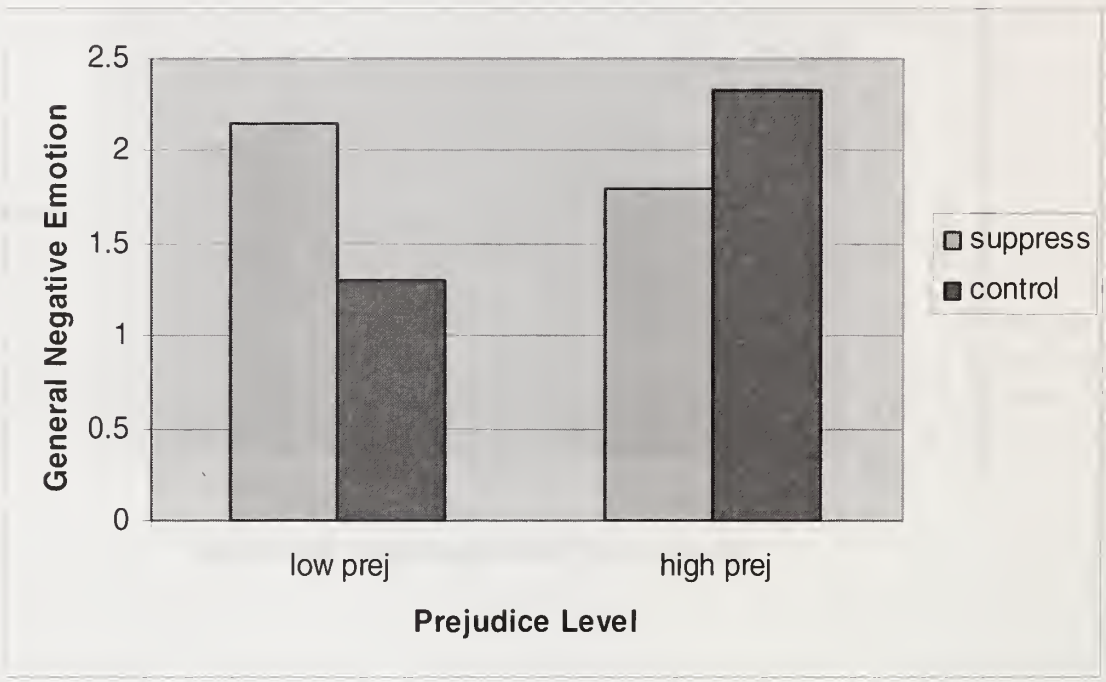
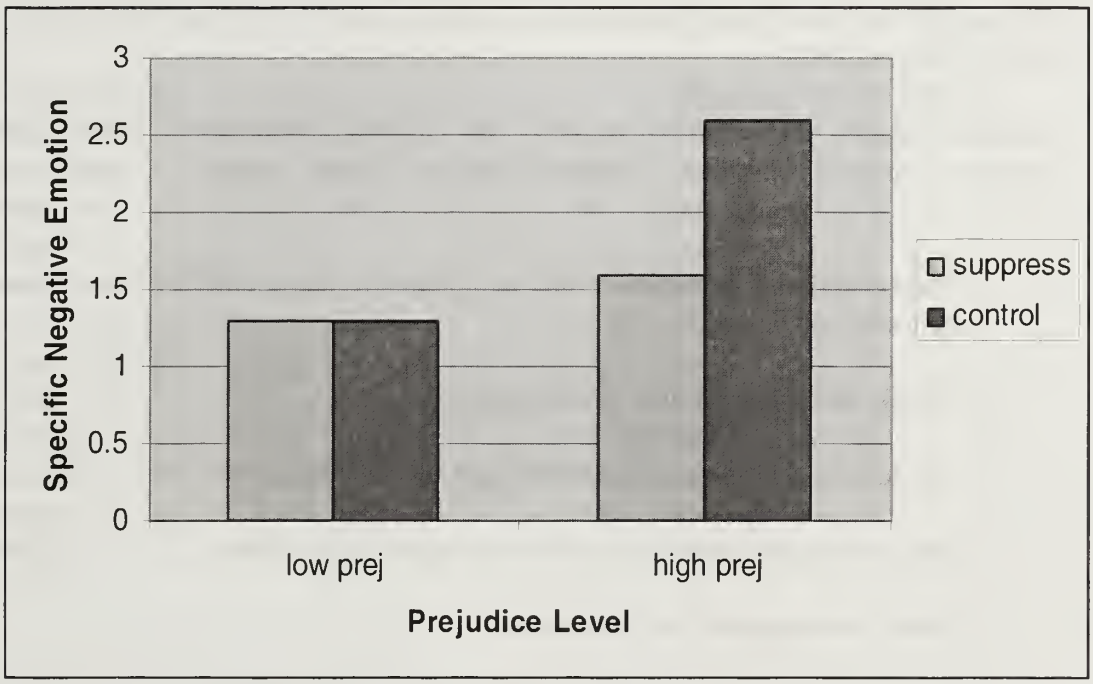


Figure 4: Effect of Suppression Instructions and Prejudice Level on Self-reported Specific Negative Emotion



APPENDIX A

GAY MALE SUBSCALE OF THE ATTITUDES TOWARD LESBIANS AND GAY MEN SCALE

(ATLG; Herek, 1984)

Strongly Disagree	Mostly Disagree	Moderately Disagree	Slightly Disagree	No Opinion	Slightly Agree	Moderately Agree	Mostly Agree	Strongly Agree
1	2	3	4	5	6	7	8	9

1) Male homosexual couples should be allowed to adopt children the same as heterosexual couples.

2) I think male homosexuals are disgusting.

3) The idea of male homosexual marriage seems ridiculous to me.

4) Male homosexuals should not be allowed to teach school.

5) Male homosexuality is a perversion.

6) Homosexual behavior between two men is just plain wrong.

7) Just as in other species, male homosexuality is a natural expression of sexuality in human men.

8) If a man has homosexual feelings, he should do everything he can do to overcome them.

9) I would not be too upset if I learned that my son (future or present) were a homosexual.

10) Male homosexuality is merely a different kind of lifestyle that should be not be condemned.

APPENDIX B

INDIRECT MEASURE OF EMOTION (STUDY 1)

Lexical Decision Task Words (Disgust-related words from Charash & McKay, 2002)

Disgust Words	*Matched Neutral Words*
decay	bunch
disgust	incline
gross	beach
vomit	polar
nasty	canal
Anxiety Words	
upset	vague
anxious	cottage
nervous	citizen
tense	split
danger	attend

APPENDIX C

DIRECT MEASURE OF EMOTION

Not at all Very much so

1 2 3 4 5 6 7

1. How anxious do you feel right now?
2. How joyful do you feel right now?
3. How upset do you feel right now?
4. How disgusted do you feel right now?
5. How angry do you feel right now?
6. How afraid do you feel right now?
7. How repulsed do you feel right now?
8. How annoyed do you feel right now?
9. How calm do you feel right now?
10. How warm do you feel right now?
11. How interested do you feel right now?
12. How happy do you feel right now?
13. How tense do you feel right now?
14. How frustrated do you feel right now?
15. How relaxed do you feel right now?

APPENDIX D

STEREOTYPE ACTIVATION STIMULI WORDS

(Monteith, Spicer et al., 1998)

Stereotype Relevant Words

Flamboyant
Artistic
Feminine
Sexual
Unnatural
Hairstylist
Immoral
Designer
Neat
Promiscuous
Activist
Sinful
Fashion

Non-Stereotype Relevant Words

Green	Frog	Would	Vacate
Relieved	Hypothesis	Graph	Honest
Glanced	Stamina	Curve	Device
Lonely	Sandwich	Floor	Budget
Jealous	Bus	Place	Noodle
Calm	Surgery	Been	
Chicken	Sparkle	Pile	
Avoided	Ugly	Rice	
Flood	Medal	Average	
Chess	Smile	Frantic	
Strong	Penalty	Free	
Nice	Accountable	More	
Champ	Crocodile	Knuckle	
Burden	Detective	Pronoun	
Library	Statement	Silence	
Diplomats	Vegetable	Trailer	
Crime	Bleach	Working	
Holiday	Sister	Distinct	
Crisis	Winter	Illusion	
Barbecue	Sponge	Railroad	
Cup	Effect	Tendency	
Tumor	Center	Cactus	
Hat	Topic	Second	

APPENDIX E

INDIRECT MEASURE OF EMOTION (STUDY 2)

Homophone Task (Se also Halberstadt et al., 1995)

Negative Homophones	Positive Homophones
Disgust/discussed	Accept/except
Bored/board	Right/write
No/know	Medal/metal
Bury/berry	Presents/presence
Vile/vial	Dear/deer
Poor/pour	Peace/piece

APPENDIX F

DESIRE FOR INTERGROUP CONTACT MEASURE

Hi! I am collecting pilot data for an honors project I am pursuing on media and technology exposure. Please answer the following questions.

Gender: ____ Male ____ Female
Class Year: _____
Major/Expected Major: _____

How many hours do you watch television per *week*?
a) 0 b) 1-2 c) 3-5 d) 6-8 e) 9+

How many hours do you play video games per *week*?
a) 0 b) 1-2 c) 3-5 d) 6-8 e) 9+

How many movies do you watch per *month*?
a) 0 b) 1-2 c) 3-5 d) 6-8 e) 9+

How many hours do you spend on the Internet per *week*?
a) 0 b) 1-2 c) 3-5 d) 6-8 e) 9+

How many times do you check your email in an average *day*?
a) 0 b) 1-2 c) 3-5 d) 6-8 e) 9+

Based on this survey's responses, I will be conducting more in depth interviews on media and technology exposure. Would you be willing to be interviewed in the future for my honors project?

How much would you be interested in participating in my future project? Circle one X.

X X X X X X X
Not at all Kind of Very interested

Please check one.
___ Please call me at _____ (write your phone number in space provided). I would like to participate in the future in-depth interview.

___ No, thank you, I am not interested in participating in the future in-depth interview.

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